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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/629,234	07/31/2000	Syon Bhattacharya		4012

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EXAMINER	
HO, THE T	

ART UNIT	PAPER NUMBER
2126	7

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/629,234	BHATTACHARYA ET AL.	
	Examiner	Art Unit	
	The Thanh Ho	2126	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26 and 30-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26 and 30-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the amendment filed 12/19/2003.

2. Claims 1-26 and 30-35 have been examined and are pending in the application.

Claim Objections

3. Claim 17 is objected to because of the following informalities: there is an extra "the" within the phrase "...that the it exits..." (line 2). Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-26 and 30-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The claim language in the following claims is not clearly understood:

(i) Claim 1 - it is unclear whether "each module" (lines 2 and 6) refers to the "plurality of modules" (line 2) or "at least one selected module" (line 1). Correction is required.

(ii) Claim 9 - it is unclear whether "each module" and "at least two modules" (lines 1-2) refers to the "plurality of modules" (line 2 of claim 1) or "at least one selected module" (line 1 of claim 1). Correction is required.

(iii) Claim 15 - it is unclear whether "each module" (lines 2 and 6) refers to the "plurality of modules" (line 2) or "at least one first module" (line 1). Correction is required.

(iv) Claim 21 - it is unclear whether "each module" and "at least two modules" (lines 1-2) refers to the "plurality of modules" (line 2 of claim 15) or "at least one first module" (line 1 of claim 15). Moreover, it is unclear why it is necessary to "disconnecting" and then "reconnecting" each pin of the second module that is being connected to a pin of the first module (lines 12-13). Correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-4, 7, 13, 15-18 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanigawa U.S Patent No. 6,618,368 in view of Admitted Prior Arts (APA).

As to claim 15, Tanigawa teaches a method of a streaming data path (stream of audio data, lines 41-53 column 2) of a graph (Fig. 15) having a plurality of modules (modules 1701, 1705, 1604, 1706, 1707 and 1708, Fig. 15), each module being connected to at least one other module (connections of modules in Fig. 15) to form the

streaming data path (stream of audio data, lines 41-53 column 2) having at least one input module (module 1701, Fig. 15) located at an input edge (module 1701 retrieves events generated by the user inputs, lines 59-65 column 12; module 1706 receives notification from 1604, Fig. 15) and at least one output module (module 1705 and 1708, Fig. 15) located at an output edge (module 1705 and 1708 communicate with controller 204 and output unit 207, Fig. 15), the method comprising sending a notification packet (audio data relay status, line 49 column 12) through the streaming data path to each module (relay status notification process module 1604 retrieves audio data relay status and informs modules 1706, 1707, 1708 of the relay status, lines 48-52 column 12, Fig. 15), detecting when the notification packet is received at each output module (monitoring is performed to see if relay status notifications have been received, line 67 column 14 to line 1 column 15). However, Tanigawa does not explicitly teach adding a module.

APA teaches in existing systems, anytime if there is a need for changing to the processing elements within a stream (streaming data, line 8 page 2), all of the modules connected together are stopped, add a module (add a filter to the stream, lines 15-16 page 2), and the modules are restarted (lines 7-21 page 2). It would have been obvious to apply the teachings of APA to the system of Tanigawa because the added modules would provide additional control to the system.

As to claim 16, APA further teaches acquiring a graph lock (the stream is locked wherein all of the modules within the stream are stopped for the changes that needs to be made, lines 19-21 page 2).

As to claim 17, APA further teaches executing a multiple wait (all of the modules within the stream are stopped and wait for the changes to be made, lines 19-20 page 2) specifying that the it exits if one of the graph lock and an event type object is set.

As to claim 18, APA does not explicitly teach removing a module. However, APA teaches there are times when a particular module needs to be changed such as a different decoding module is required (lines 13-15 page 2). Therefore one of ordinary skill in the art would conclude that in this case, the particular module mentioned above needs to be removed in order for the stream to add a different decoding module; therefore, it allows the stream to adapt to the new environment by simply removing the unnecessary module.

As to claim 25, it is a computer readable medium claim of claim 15. Therefore, it is rejected for the same reasons as claim 15 above.

As to claim 1, it is a method claim of claims 15 and 18. Therefore, it is rejected for the same reasons as claims 15 and 18 above.

As to claims 2-3, they are method claims of claims 16-17, respectively. Therefore, they are rejected for the same reasons as claims 16-17 above.

As to claim 4, it is a method claim of claim 15. Therefore, it is rejected for the same reasons as claim 15 above.

As to claim 7, it is a method claim of claims 15 and 19. Therefore, it is rejected for the same reasons as claims 15 and 19 above.

As to claim 13, it is a computer readable medium claim of claim 1. Therefore, it is rejected for the same reasons as claim 1 above.

6. Claims 5-6, 8-12, 14, 19-24, 26 and 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanigawa in view of APA, and further in view of Krause U.S Patent No. 5,815,707.

As to claim 19, Tanigawa as modified does not explicitly teach each module has at least one pin. Krause teach a streaming data system (Fig. 3) wherein each streaming module (modules 17, 14 and 30, Fig. 3) has two pins (write and read queues, Fig. 3) that connect the modules together. It would have been obvious to apply the teachings of Krause to the system of Tanigawa because whenever a new module needs to be added into the stream, the pins within the new module would be used to connect the new module with the other modules of the stream; thereby the new module would use the pins to communicate with other modules of the stream.

As to claim 20, it is a method claim of claims 15 and 19. Therefore, it is rejected for the same reasons as claims 15 and 19 above.

As to claim 21, Krause further teaches each module (modules 17, 14 and 30, Fig. 3) has at least one pin (write and read queues of the modules, Fig. 3), at least two modules (17 and 14, Fig. 3) have at least one interface (stream head consists of a set of routines that provide the interface between applications in user space and the rest of the stream in kernel space, lines 65-67 column 1) to support dynamic reconfiguration (intermediate processing element that can be dynamically added to, line 41-42 column 2), one (17, Fig. 3) of the two modules being upstream (module 17 is head of the stream that receives user input, lines 1-2 column 2) of the first module (30, Fig. 3) and the other (14, Fig. 3) of the two modules being downstream (end or tail of the stream, line 10

column 2) of the first module (30, Fig. 3) comprising locating (module 17 is being upstream of module 30 in Fig. 3) at least one input edge module (module 17 is head of the stream that receives user input, lines 1-2 column 2) being one of the at least two modules that is upstrearn of the first module (30, Fig. 3); locating (module 14 is being downstream of module 30 in Fig. 3) at least one output edge module (module 14 is end or tail of the stream, line 10 column 2) being the other of the two modules that is downstream of the first module (30, Fig. 3). The concept of adding or removing a module as well as if there is a need for changing to the processing elements within a stream, all of the modules connected together are stopped, make the changes and restarted is clearly discussed within claims 15 and 18 as taught by Tanigawa and APA above. Meanwhile, Krause as discussed in claim 19 teaches pins within a module, wherein the pins are needed to connect one module to another. Therefore one of ordinary skill in the art would conclude that by adding or removing a module, the first thing that is needed to be done is disconnect the pins of an existing module within the stream chain, then reconnect those pins with the pins of a new module (or in the case of removing a module, disconnect the pins of an existing module within the stream chain, remove that module and then reconnect pins of the modules that stay).

As to claim 22, note the discussion of claim 21 above for the case of removing a module within a stream.

As to claim 23, it is a method claim of claims 15 and 21. Therefore, it is rejected for the same reasons as claims 15 and 21 above.

As to claim 24, it is a method claim of claim 16. Therefore, it is rejected for the same reasons as claim 16 above.

As to claim 26, it is a computer readable medium claim of claim 21. Therefore, it is rejected for the same reasons as claim 21 above.

As to claim 33, Krause further teaches each module provides an interface (each component's queue provides an interface between the component and the rest of the stream, lines 40-41 column 2) comprising a command to determine if an input pin of a processing module can accept a media type on a next data sample (one of the ioctl commands is used to alter active instances of a module, lines 62-66 column 9). Tanigawa further teaches a command to provide notice (notifies appropriate processing modules, lines 63-64 column 12); a command to signal when a reconnection should end (terminates the connection when a communication release notification is received, lines 16-17 column 7).

As to claim 34, Krause further teaches each module provides an interface (each component's queue provides an interface between the component and the rest of the stream, lines 40-41 column 2). APA further teaches a command to temporarily block data flow (command issued that made all of the modules within the stream stopped, lines 19-20 page 2).

As to claim 35, Krause further teaches each module provides an interface (each component's queue provides an interface between the component and the rest of the stream, lines 40-41 column 2) comprising a command to perform a dynamic reconnection (dynamic function replacement, lines 30-31 column 4) between an output

pin and an input pin (write and read queues, Fig. 3); a command to put a module into a cache (cache miss, line 14 column 4); a command to remove a module (remove intermediate processing elements, lines 32-33 column 1); a command to enumerate modules (examine a particular stream instance, lines 51-52 column 5); a command to get a start time (time stamping, line 23 column 14); a command to push data to a pin (modules can be pushed onto pipes to obtain more functionality, lines 17-18 column 3).

As to claims 5-6, they are method claims of claims 19-20, respectively. Therefore, they are rejected for the same reasons as claims 19-20 above.

As to claim 8, Krause further teaches moving each selected module into a filter graph cache (cache miss, line 14 column 4).

As to claims 9-10, they are method claims of claim 21. Therefore, they are rejected for the same reasons as claim 21 above.

As to claims 11-12, they are method claims of claims 23-24, respectively. Therefore, they are rejected for the same reasons as claims 23-24 above.

As to claim 14, it is a computer readable medium claim of claim 9. Therefore, it is rejected for the same reasons as claim 9 above.

As to claims 30-32, they are method claims of claims 33-35, respectively. Therefore, they are rejected for the same reasons as claims 33-35 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to The Thanh Ho whose telephone number is 703-306-

5540. A voice mail service is also available for this number. The examiner can normally be reached on Monday – Friday, 8:30 am – 5:00 pm.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Any response to this action should be mailed to:

Commissioner for Patents

P.O Box 1450

Alexandria, VA 22313-1450

Or fax to:

- AFTER-FINAL faxes must be signed and sent to (703) 746 – 7238
- OFFICAL faxes must be signed and sent to (703) 746 – 7239
- NON OFFICAL faxes should not be signed, please send to (703) 746 – 7240

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TTH
March 17, 2004